



CONSERVATION LAW FOUNDATION

February 9, 2009

Courtney Feeley Karp
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: Draft APS Regulations

Dear Courtney:

The Conservation Law Foundation (CLF) appreciates this opportunity to submit comments regarding the Department of Energy Resources' (DOER) draft regulations that were promulgated on December 31, 2008 as emergency regulations intended to implement Section 32 of the "Green Communities Act," Mass. G.L. c. 25A, s. 11F½. These comments address the draft regulations implementing the new Massachusetts Alternative Energy Portfolio Standard (APS) at 225 CMR 16.00 *et seq.*¹

The APS holds promise for providing an important boost to truly clean alternative energy technologies such as efficient Combined Heat-and-Power (CHP) and energy storage that is used in conjunction with clean renewable energy resources. However, significant environmental risks are presented by some of the technologies included in the APS. We believe the draft regulations require modification in certain respects in order to minimize these risks and ensure consistency with the APS statute; notably:

- It is critically important to ensure effective implementation of the statutory requirement for stringent emissions limits that are consistent with the Commonwealth's environmental policies, including a robust commitment to reduce greenhouse gas emissions pursuant to the Massachusetts Global Warming Solutions Act, Chapter 298 of the Acts of 2008, Mass. G.L. c. 21N. Accordingly, the carbon-dioxide emissions limits should be significantly strengthened and meaningful capture and sequestration definitions and protocols (including for monitoring and verification) must be established.
- It is also imperative that the APS not become a new tool for promoting waste-to-energy systems that, *inter alia*, (1) represent lost opportunities for recycling or reuse; (2) correspondingly have an inferior energy cost equation and unnecessarily waste natural

¹ CLF is also submitting comments, via a separate letter of today's date, regarding the proposed RPS regulations (225 CMR 14.00 and 15.00 *et seq.*), and anticipates submitting further comments by February 19 regarding the APS Combined Heat-and-Power provisions released on February 5.

62 Summer Street, Boston, Massachusetts 02110-1016 • Phone: 617-350-0990 • Fax: 617-350-4030 • www.clf.org

MAINE: 14 Maine Street, Brunswick, Maine 04011-2026 • 207-729-7733 • Fax: 207-729-7373

NEW HAMPSHIRE: 27 North Main Street, Concord, New Hampshire 03301-4930 • 603-225-3060 • Fax: 603-225-3059

RHODE ISLAND: 55 Dorrance Street, Providence, Rhode Island 02903 • 401-351-1102 • Fax: 401-351-1130

VERMONT: 15 East State Street, Suite 4, Montpelier, Vermont 05602-3010 • 802-223-5992 • Fax: 802-223-0060

resources; and (3) increase toxic air pollution. Thus, the definition of “paper-derived fuel” should be significantly modified to exclude traditional municipal solid waste while ensuring that only non-recyclable paper is converted to electricity.

Background

CLF has a long history of advocacy regarding energy policy and climate change.

Founded in 1966, the Conservation Law Foundation is a nonprofit, member-supported public interest advocacy organization. CLF is dedicated to solving environmental problems that threaten the people, communities, and natural resources in Massachusetts and throughout New England.

To further these goals, CLF undertakes litigation and other legal advocacy on behalf of its members’ interests, and promotes public awareness, education, and citizen involvement in conserving natural resources, protecting public health, and promoting vital communities in the region. CLF promotes clean, renewable, and efficient energy production in New England and has an unparalleled record of expertise and advocacy to protect the region’s air quality, water quality, and marine resources. For example, CLF has brought successful lawsuits to prevent drilling for oil and gas on Georges Bank, the lawsuit that led to the Boston Harbor clean-up project, and multiple lawsuits to reduce over-fishing in the North Atlantic.

CLF has been a leader in addressing the environmental impacts of New England’s electric energy system. Among other things, this has included a long-standing focus on reducing the severe environmental impacts associated with generation facilities and promoting responsible clean energy alternatives. CLF has been extensively involved in the design and implementation of the Restructuring Act, including the RPS, and in numerous proceedings and rulemakings before DOER and the Massachusetts Department of Public Utilities with respect to renewable energy policies and programs.

It is in this context that we offer the following comments. Note that the following comments track the actual order of the draft APS regulations, rather than the order of importance of the issues.

Draft APS regulations, 225 CMR 16.00 et seq.

Although we will reserve our comments on some key APS provisions for now (given the newly released draft revisions to the CHP regulations), we believe the initial APS targets and Alternative Compliance Payment (ACP) levels generally appear reasonable.² We do have a number of concerns regarding the eligibility requirements for the various technologies, as discussed below.

² Modifications may be needed, for example, to address the unique demands of micro-CHP; we expect to address this issue in connection with our comments to be filed by February 19.

Definitions, Section 16.02:

APS Alternative Generation: The draft definition of “APS Alternative Generation” is overly vague and circular. It is defined as the electrical energy output of an Alternative Generation Unit, which in turn is defined only as “A Generation Unit or Aggregation that has received a Statement of Qualification from the Department.” The definitions should specify that APS Alternative Generation is generation supplied by an “alternative energy generating source consistent with the requirements of Mass. G.L. c. 25A, s. 11F½ and 225 CMR 16.05(1),” or language to that effect.

Capture and Permanent Sequestration: We appreciate that the draft regulations include a placeholder for the definition of “Capture and Permanent Sequestration,” a critical definition for ensuring that the greenhouse gas emissions are minimized in connection with eligible gasification facilities. We also believe that it is appropriate to refrain from establishing criteria for capture and permanent sequestration at this time, until the state of technological development advances – but this makes sense only so long as it is recognized that no gasification facilities currently are eligible under the APS, and that these critical provisions will be clearly established (subject to public comment) before any eligibility determination is made for an alternative energy generating source using gasification.

Paper-derived Fuel: The draft definition of “paper-derived fuel” is circular, unduly vague, and is not consistent with the plain meaning of “paper-derived” as set by the APS governing statute. As written, there is a risk that the provision will be implemented so as to allow eligibility for significant quantities of material that bears no relationship to “paper.” The composition limit of “not more than 15 per cent by energy content of fossil fuel derived sources” is both far too high and vague. We assume that plastics derived from petroleum, for example, would be encompassed by this 15% limit, but that is not entirely clear.

In any event, paper-derived fuel should be defined by its plain terms. It is one thing for a private entity to engage in what amounts to Orwellian “doublespeak” by labeling heterogeneous solid waste fuel with benign terminology such as “paper-derived fuels.” It is far more objectionable and inappropriate for the Commonwealth to do the same by embracing a definition that allows for the inclusion of significant amounts of material that may be totally unrelated to paper, as proposed here. Instead, the definition should be revised so that “paper-derived fuels” are required to be comprised of *paper or paper products* that are not recyclable, with only *de minimis* amounts of other material. If the regulations fail to define paper-derived fuel to exclude waste materials such as the golf balls that were mentioned by one paper-derived fuel proponent at the Fall 2008 stakeholder meeting, the APS will be at risk of becoming yet another program to boost waste incineration despite the significant risks of acute toxic air pollution and other environmental impacts.³ This would be inconsistent with the intent of the Green Communities

³ As paper-derived fuel proponent International Paper Products (IPP) itself admitted in its comment letter filed in October 2008 as part of DOER’s informal stakeholder process, the objectives of the APS include “decreasing pollution.” See IPP’s October 15, 2008 Comment Letter at p. 1. IPP also notably admitted that “materials suitable for [paper-derived fuel (PDF)] . . . are historically disposed as solid waste” (*id.* at p. 2), thus admitting that a broad definition of paper-derived fuel would result in APS eligibility for

Act (which, *inter alia*, addresses waste-to-energy through RPS Class II and potentially through the APS gasification provision) and would represent a significant lost opportunity for directing incentives toward truly beneficial clean alternative energy technologies.

Eligibility Criteria for APS Alternative Generation Units, Section 16.05

Gasification, Section 16.05(1)(a)(1): The requirements for capture and permanent sequestration are a critical component of gasification eligibility pursuant to the APS, and must be significantly strengthened. As currently drafted, the gasification eligibility requirements simply require an eligible gasification facility to document that it “has established and maintains a Capture and Permanent Sequestration program of [sic] carbon dioxide.” Section 16.05(1)(a)(1)(a). As noted above, a meaningful and robust definition must be established for “Capture and Permanent Sequestration.” The APS statute explicitly requires DOER to set these standards:

The department, in consultation with the department of environmental protection, *shall* set: (1) emission performance standards, including standards for carbon dioxide emissions, *permanent sequestration definitions and standards*. . .

Mass. G.L. c. 25A, s. 11F½(b). DOER thus should promulgate regulations establishing baseline requirements for an eligible capture and permanent sequestration “program,” including a requirement that 100% of the carbon dioxide emissions from gasification be captured and permanently stored, as well as effective monitoring and verification protocols to ensure that storage is truly “permanent” as required by the statute.

In addition, it is important to further clarify the APS gasification eligibility requirements pertaining to air emissions. It is not sufficient, of course, for an eligible facility to comply with a valid air permit. An eligible facility not only must meet the statutory requirements for capture and permanent sequestration of emissions from gasification, but also emission performance standards set by the department that are “consistent with the commonwealth’s environmental goals, including, but not limited to, the reduction of greenhouse gas emissions.” *Id.*

In light of the Global Warming Solutions Act that was enacted shortly after the APS was adopted as part of the Green Communities Act, we believe the proposed “net carbon dioxide emissions rate limit” of 890 pounds per MWh for APS-eligible technologies is far too high – and this is especially true for gasification facilities, which are specifically subject to the requirement that emissions from gasification be captured and permanently stored. Providing *incentives* for facilities that produce more emissions than a brand new combined cycle natural gas power plant is directly at odds with the Commonwealth’s greenhouse gas reduction policies, and contrary to the APS statute. For gasification technologies to be eligible pursuant to the APS statute, we recommend that the emissions limit be set significantly lower. CLF recommends that this limit for gasification facilities be set consistent with pending federal legislation introduced by Senator John Kerry pertaining to limits for so-called “clean coal power plants,” at 285 lbs/MWh (inclusive of gasification *and* electric generation). Such a technology-forcing limit would be

waste-to-energy – which certainly seems contrary to the intent of the statutory provision referring to “paper-derived” fuel.

consistent with Commonwealth's environmental goals and mandates, including those set forth in the Massachusetts Global Warming Solutions act, Mass. G.L. c. 21N, as discussed further below.

Further, particularly to the extent that gasification *of solid waste* may be considered eligible pursuant to the APS, it is critically important to set stringent limits for anticipated air pollutants such as particulate matter, furans, dioxins, and volatile organic compounds (VOCs) in general.

Finally, it bears repeating that while it is appropriate to refrain from explicitly defining all standards that will be applied to eligible gasification facilities until after capture and permanent sequestration has been successfully demonstrated and reliable protocols established, it is even more important to refrain from qualifying any gasification technologies under the APS until after such time as the technology has been proven and the relevant standards well defined.

Flywheel Storage Unit, Section 16.05(1)(a)(3): The draft eligibility requirements for flywheel energy storage units reflect a lost opportunity to maximize the clean energy benefits of this technology, and do not meet the requirement to establish emissions performance standards that are consistent with the Commonwealth's goals, including the reduction of greenhouse gas emissions.

Flywheel energy storage units should be eligible for the APS only to the extent they are used to store and release electricity from truly clean energy resources, specifically RPS-eligible resources. As flywheel storage proponent Beacon Power admitted during the informal stakeholder process in Fall 2008, storage of electricity from natural gas power plants has, by Beacon Power's own calculation, only about one-fifth the carbon-dioxide "savings" of renewable energy. The difference is even more stark when one considers the prospect of deployment in conjunction with heavy fuel oil or coal-fired generation. Given the Massachusetts Global Warming Solutions Act's mandate to reduce greenhouse gas emissions across all sectors from 10-25% below 1990 levels by 2020 and 80% by 2050, the APS regulations must at a minimum assiduously guard against providing incentives for increasing off-peak generation and storage of electricity from intensive greenhouse gas-emitting generation resources such as the notorious "Filthy Five" power plants. The regulations as drafted fail to provide such protections. They should be revised to include a requirement that "only the portion of the electrical output of a Flywheel Storage Unit that is derived from a renewable energy generating source as defined by Mass. G.L. c. 25A, s. 11F and 225 CMR 15.00 or 16.00 *et seq.*, shall be eligible."

Paper-derived Fuel, Section 16.05(1)(a)(4): As discussed above, DOER should significantly modify the eligibility requirements for "paper-derived fuel" by appropriately adjusting the definition of this fuel source. In addition – particularly if DOER does not modify the definition sufficiently to ensure that only actual paper and paper products are eligible – it is critically important to set strict air emissions criteria for combustion of paper-derived fuels. Even if the fuel is required to be "clean" and truly comprised of paper, particulate matter (PM) and other likely emissions must be limited. And if DOER allows materials such as plastics, rubber, other petroleum-derived products, laminates, etc. to be included in eligible fuel – contrary to the objectives of the statute – it will be critically important to set stringent limits for anticipated air pollutants such as furans, dioxins, and volatile organic compounds (VOCs) in general. The absence of such specific limits, coupled with the proposed loose definition of

paper-derived fuel, is contrary to the statute's requirement for emissions performance standards that are consistent with the Commonwealth's environmental goals.

Behind-the-meter-Generation, Section 16.05(d)(2): Given the statutory requirement for alternative energy to be sold to end-use customers in the Commonwealth, it makes sense to ensure that behind-the-meter generation located outside Massachusetts only is eligible to the extent that electrical output is sold into the electric grid (and thus made available for delivery to Massachusetts customers). Electric power consumed on-site outside Massachusetts should not be eligible because is not available for delivery to Massachusetts customers. Accordingly, we recommend that Section 16.05(d)(2) be revised to add language along the lines of the following: "For behind-the-meter generation located outside Massachusetts, only the electrical energy output not consumed on site shall be eligible."

Net Carbon Dioxide Emissions Rate, Section 16.05(e): The net carbon dioxide emissions rate established for technologies eligible pursuant to the APS is of critical importance. The statute requires DOER to set emissions limit emission performance standards, "including standards for carbon dioxide emissions, . . . for all technologies included in this section. . . consistent with the commonwealth's environmental goals, including, but not limited to, the reduction of greenhouse gas emissions." Mass. G.L. c. 25A, s. 11F½(b). The statute further requires that a net carbon dioxide emissions rate, inclusive of all emissions related to gasification, fuel processing, sequestration and combustion, must be set "*not to exceed* the average emissions rate of existing natural gas plants in the commonwealth." This latter provision sets a ceiling, not a floor. The statutory language requires DOER to do more than merely embrace the absolute limit; instead, a limit must be established that is "consistent with the commonwealth's environmental goals, including but not limited to, the reduction of greenhouse gas emissions." When setting this limit, DOER must consider the mandate contained in the Global Warming Solutions Act to reduce carbon dioxide emissions within the Commonwealth by 10-25% below 1990 levels by 2020 and 80% by 2050.

If DOER were to set the emissions limit at the statutory ceiling, a coal gasification technology could qualify for the APS by simply displacing natural gas at a natural gas-fired power plant, even though there would be no carbon-dioxide or other emissions reduction benefit and instead there would new risks of increased emissions given the questionable reliability of permanent carbon-dioxide sequestration. The APS was not intended to promote technologies that at best maintain the status *quo* and at their worst diminish the Commonwealth's ability to meet its climate goals.

Thus, as discussed above, we recommend a more stringent limit on net carbon dioxide emissions to set a technology-forcing standard for gasification (which is the only APS technology for which an express requirement for capture and permanent sequestration of emissions is set by statute). This limit should be set at 285 lbs/MWhr. For other technologies included in the APS that do not explicitly require capture and permanent storage of carbon-dioxide emissions, we recommend an emissions limit comparable to that achievable by clean Combined Heat and Power (CHP) technology, about 550 lbs/MWh.

Statement of Qualification Process for APS Alternative Generation Units, Section 16.06(2)(b): Unlike the preexisting RPS regulations that required opportunities for

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public comment in connection with some of the more delicate determinations made by DOER with respect to RPS eligibility, the new draft APS regulations set forth no requirements for public comment opportunities in connection with Statements of Qualification. While DOER of course may still offer public comment opportunities in its discretion – and we urge DOER to do so in any event – the lack of a clear commitment to such public comments is regrettable and should be revisited, especially given that so many of these new provisions are entirely untested.

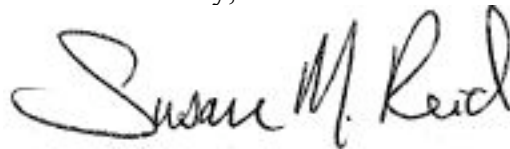
Audit and Site Inspection, Section 16.11(2): The draft regulations should be modified to expressly provide for audits and site inspections not just for APS Alternative Generation Units but also for any “Gasification Unit” that supplies gasified fuel for an eligible generating unit, as well as any capture and permanent storage sites.

Conclusion

Thank you, again, for the opportunity to provide these comments. We recognize that the APS is an entirely new program and the technologies it embraces are quite diverse – including the extent to which they are developed and market-ready, or not. Although the APS presents real opportunities for promoting clean alternative energy, it also presents many environmental and public health risks that can be avoided through careful implementation. We therefore appreciate the thoughtfulness DOER has put into these draft regulations to date, and urge you to modify the regulations as indicated above.

We look forward to continuing to work with DOER to maximize the effectiveness of the APS.

Sincerely,

A handwritten signature in dark ink, reading "Susan M. Reid". The signature is fluid and cursive, with the first name "Susan" being the most prominent part.

Susan M. Reid, Esq.
Director, MA Clean Energy & Climate Change Initiative

cc: Phil Giudice, Commissioner
Rob Sydney, General Counsel